APPENDIX A

Table A1. Hypervolume averages of combinations for each selection algorithm for small-sized test projects (the worst combination for a selection algorithm is highlighted in bold)

		HD	HD-min	avgHD	avgHD-step	exmCA	avgCA
flex	Greedy	5.04E-03	6.91E-03	**7.60E-03**	4.60E-03	–	–
	Roulette	**1.65E-02**	1.63E-02	1.56E-02	1.30E-02	–	–
	ϵG	**1.44E-03**	1.40E-03	9.89E-04	1.06E-03	–	–
	ϵRG	1.15E-02	**2.16E-02**	1.13E-02	9.65E-03	–	–
	SIMAB	–	–	–	–	**9.17E-03**	4.38E-03
bash	Greedy	**1.57E-02**	8.32E-03	9.39E-03	1.01E-02	–	–
	Roulette	3.58E-02	4.06E-02	**4.47E-02**	3.76E-02	–	–
	ϵG	3.88E-02	**4.27E-02**	3.32E-02	3.74E-02	–	–
	ϵRG	3.23E-02	**4.32E-02**	3.93E-02	3.42E-02	–	–
	SIMAB	–	–	–	–	**4.59E-02**	3.10E-02
commons-dbutils	Greedy	**4.68E-03**	2.55E-03	2.33E-03	7.05E-04	–	–
	Roulette	1.80E-03	**9.92E-03**	5.71E-03	8.50E-04	–	–
	ϵG	2.21E-03	**5.71E-03**	3.48E-03	2.53E-03	–	–
	ϵRG	7.93E-04	**8.28E-03**	1.65E-03	4.96E-04	–	–
	SIMAB	–	–	–	–	**3.46E-02**	1.04E-02
commons-cli	Greedy	7.46E-04	4.54E-04	**1.41E-02**	4.08E-04	–	–
	Roulette	5.18E-03	**1.87E-02**	8.08E-03	5.84E-03	–	–
	ϵG	1.24E-02	**1.80E-02**	9.80E-03	1.69E-02	–	–
	ϵRG	2.62E-03	**1.99E-02**	4.81E-03	2.96E-03	–	–
	SIMAB	–	–	–	–	**2.76E-02**	6.23E-03

Table A2. Hypervolume averages of combinations for each selection algorithm for medium-sized test projects (the worst combination for a selection algorithm is highlighted in bold)

		HD	HD-min	avgHD	avgHD-step	exmCA	avgCA
commons-validator	Greedy	1.38E-02	**2.12E-02**	1.34E-02	2.10E-02	–	–
	Roulette	8.35E-03	8.65E-03	**8.98E-03**	6.43E-03	–	–
	ϵG	3.83E-03	**6.13E-03**	2.94E-03	3.09E-03	–	–
	ϵRG	7.45E-04	**5.70E-03**	1.91E-03	1.27E-04	–	–
	SIMAB	–	–	–	–	**1.44E-02**	2.50E-03
commons-io	Greedy	1.37E-03	**1.61E-03**	1.08E-03	7.90E-04	–	–
	Roulette	2.85E-04	**5.14E-03**	2.27E-04	3.83E-05	–	–
	ϵG	1.99E-03	**5.23E-03**	1.81E-03	2.20E-03	–	–
	ϵRG	2.48E-04	3.37E-03	**4.24E-03**	7.16E-05	–	–
	SIMAB	–	–	–	–	**5.38E-03**	5.21E-03
commons-net	Greedy	1.64E-03	1.12E-03	1.17E-03	**1.77E-03**	–	–
	Roulette	2.45E-03	**1.89E-02**	1.45E-03	3.14E-03	–	–
	ϵG	8.89E-03	**1.88E-02**	6.87E-03	7.15E-03	–	–
	ϵRG	2.64E-03	**1.35E-02**	1.58E-03	1.36E-03	–	–
	SIMAB	–	–	–	–	**2.26E-02**	3.66E-03
threetenbp	Greedy	8.03E-03	1.18E-02	1.17E-02	**1.22E-02**	–	–
	Roulette	1.12E-03	**5.11E-03**	1.01E-03	9.99E-04	–	–
	ϵG	9.66E-04	**1.78E-03**	3.86E-04	4.87E-04	–	–
	ϵRG	1.28E-04	**4.12E-04**	1.90E-04	1.54E-04	–	–
	SIMAB	–	–	–	–	**9.52E-03**	9.71E-04

Table A3. Hypervolume averages of combinations for each selection algorithm for large-sized test projects (the worst combination for a selection algorithm is highlighted in bold)

		HD	HD-min	avgHD	avgHD-step	exmCA	avgCA
commons-lang	Greedy	1.08E-03	**1.76E-03**	1.52E-03	1.20E-03	–	–
	Roulette	3.21E-03	**1.33E-02**	3.56E-03	4.57E-03	–	–
	ϵG	2.17E-03	**3.41E-03**	2.47E-03	2.63E-03	–	–
	ϵRG	2.78E-04	3.95E-04	**9.64E-03**	2.51E-04	–	–
	SIMAB	–	–	–	–	**8.15E-03**	2.48E-03
commons-math	Greedy	4.98E-03	6.82E-03	**1.23E-02**	5.53E-03	–	–
	Roulette	7.48E-03	**2.51E-02**	1.07E-02	5.53E-03	–	–
	ϵG	1.41E-02	1.19E-02	1.53E-02	**1.55E-02**	–	–
	ϵRG	2.59E-02	**5.48E-02**	2.69E-02	1.62E-02	–	–
	SIMAB	–	–	–	–	**2.34E-02**	4.46E-03
camel-core	Greedy	2.67E-03	**1.32E-02**	1.07E-02	5.90E-03	–	–
	Roulette	**2.24E-02**	2.19E-02	5.94E-03	9.07E-03	–	–
	ϵG	6.82E-03	7.80E-03	7.27E-03	**1.01E-02**	–	–
	ϵRG	2.71E-02	3.70E-02	1.87E-02	**3.88E-02**	–	–
	SIMAB	–	–	–	–	**2.34E-02**	7.97E-03
v8	Greedy	6.51E-04	**8.12E-03**	3.99E-03	1.44E-03	–	–
	Roulette	6.75E-04	**1.38E-02**	1.52E-03	2.14E-03	–	–
	ϵG	4.28E-04	3.83E-03	1.33E-03	**1.04E-02**	–	–
	ϵRG	7.88E-04	**9.88E-03**	1.26E-03	9.63E-04	–	–
	SIMAB	–	–	–	–	**5.96E-03**	7.69E-04